

360 Character Hazard Messages for Wireless Emergency Alerts (WEAs)

Product Description Document

Updated:6/10/2019

Part I - Mission Connection

- a) Product Description – The National Weather Service (NWS) provides concise, actionable messages intended for alerting via WEA (a dissemination network managed by the Department of Homeland Security) for hazards that are believed to be life-threatening and have consequences that can be mitigated or minimized by taking immediate action. New Federal Communications Commission (FCC) rules will allow these messages, in both English and Spanish, to contain up to 360 characters beginning in May 2019. As FEMA and wireless providers roll out these changes, wireless devices on 4G service or better are expected receive the 360 character messages. Devices with the language set to Spanish are expected to receive messages in Spanish. Spanish messages are provided without accented characters until those characters can be properly disseminated. Wireless devices with 3G service or less will receive messages confined to 90 characters. The NWS messages intended for WEA are disseminated using Common Alerting Protocol (CAP) messages and are routed through the Federal Emergency Management Agency's (FEMA's) Integrated Public Alert and Warning System (IPAWS) to wireless customers within the warned areas. These warned areas are designated as follows: (a) by a polygon, defined using latitude and longitude coordinates, (b) within a radius of a point, or (c) using a Federal Information Processing Standard (FIPS/county) code. The specific attribute used is defined and embedded in the CAP message for each specific hazard.
- b) Purpose – The change in FCC rules effective in May 2019 expands WEA to 360 characters and allows the NWS to provide wireless customers with more detailed, actionable information. The expansion of the message length will significantly increase the amount of information conveyed about a hazard during an emergency to the message recipient. The inclusion of Spanish messages will also expand the reach of NWS messaging to an audience which had been underserved by NWS WEA messaging in the past. The provision of NWS 90 character WEA messages will continue until further notice.
- c) Audience – The audience for NWS WEA messages is the public within the area warned where NWS meteorologists have assessed a reasonable chance for a life-threatening hazard whose consequences can be mitigated or minimized by immediate action.
- d) Presentation Format – NWS WEA messages are presented in two ways:

1. CAP - CAP is the vehicle the NWS uses to disseminate a message through FEMA IPAWS to the wireless devices of those in the warned area. An [example of a CAP message](#) is provided at the end of this document. The tag used to provide the message for WEA and the area designated for alerting are highlighted.

Active NWS CAP messages can be found on the Internet at:

<https://alerts.weather.gov>

2. WEA - An [example of a WEA message](#) is provided at the end of this document.

A full listing of NWS WEA messages can be found here:

<https://www.weather.gov/wrn/wea360>

e) Feedback Method -

Questions and comments on the use of WEA by the NWS should be directed to:

National Weather Service
Attn: Mike Gerber
Program Analyst
Office of Dissemination
Dissemination Systems Branch 1325 East West Highway
Silver Spring, MD 20910
Mike.Gerber@noaa.gov

Part II - Technical Description

- a. Format & Science Basis – The composition of the NWS WEA 360 character messages for life-threatening hazards will continuously be reviewed and updated based on social science research, operational service assessments, and the continuous study of public feedback associated with all NWS products and services. They may be revised to provide for the clearest communications to the public of life-threatening weather hazards and recommended safety actions. It is commonly accepted that effective messaging should include the following pieces of information:
 - i. Source of the message
 - ii. Description of the hazard
 - iii. Local personalization (through text or the restriction on the area receiving the message)
 - iv. The consequences of inaction
 - v. Protective actions
 - vi. Time when protective actions should be taken
 - vii. How protective actions reduce the consequences
 - viii. Expiration time (when applicable)
- b. Product Availability – The WEA messages are found in the CAP message available anytime a warning is issued for the hazards that are believed to have a reasonable chance of being life-threatening and consequences can be mitigated by taking action. English 360 character WEA messages and Spanish WEA messages will be implemented after the FCC rules change to allow for longer messages (May 2019) and after FEMA's IPAWS system changes are implemented to allow for the dissemination of longer messages as well as messages in Spanish. Wireless carriers will roll out their changes in the months following the IPAWS change.
- c. Additional Information – A full description of NWS Complimentary Dissemination Services is provided in NWSI 10-1704, which is available on the Internet at:

<http://www.nws.noaa.gov/directives/010/010.htm>

Examples

Sample CAP Message - Flash Flood Warning

```
MIME file
eXtensible Markup Language
<?xml
    version="1.0"
    encoding="UTF-8"
    standalone="yes"
    ?>
<alert
    xmlns:ns2="http://gov.fema.ipaws.services/caprequest"
    xmlns="urn:oasis:names:tc:emergency:cap:1.2"
    xmlns:ns4="http://gov.fema.ipaws.services/IPAWS_CAPService/"
    xmlns:ns3="http://gov.fema.ipaws.services/capresponse">
    <identifier>
        NWS-IDP-DEV-3515371-3068804
    </identifier>
    <sender>
        w-nws.webmaster@noaa.gov
    </sender>
    <sent>
        2019-05-01T23:25:00-05:00
    </sent>
    <status>
        Actual
    </status>
    <msgType>
        Alert
    </msgType>
    <scope>
        Public
    </scope>
    <code>
        IPAWSv1.0
    </code>
    <note>
    </note>
    <info>
        <language>
            en-US
        </language>
        <category>
            Met
        </category>
        <event>
            Flash Flood Warning
        </event>
        <responseType>
            Avoid
        </responseType>
        <urgency>
```

```
    Immediate
    </urgency>
<severity>
    Severe
    </severity>
<certainty>
    Likely
    </certainty>
<eventCode>
    <valueName>
        SAME
        </valueName>
    <value>
        FFW
        </value>
    </eventCode>
<eventCode>
    <valueName>
        NationalWeatherService
        </valueName>
    <value>
        FFW
        </value>
    </eventCode>
<effective>
    2019-05-01T23:25:00-05:00
    </effective>
<onset>
    2019-05-01T23:25:00-05:00
    </onset>
<expires>
    2019-05-02T01:30:00-05:00
    </expires>
<senderName>
    NWS Fort Worth TX
    </senderName>
<headline>
    Flash Flood Warning issued May 1 at 11:25PM CDT until May
2\r\n\t\t\tat 1:30AM CDT by NWS Fort Worth TX
    </headline>
<description>
    [truncated]The National Weather Service in Fort Worth has
issued a\r\n\r\n\t\t\t* Flash Flood Warning for... \r\n\t\t\tTest County in
north central Texas... \r\n\r\n\t\t\t* Until 130 AM.\r\n\r\n\t\t\t* At 1125 PM
CDT, this is only a test!\
    </description>
<instruction>
    [truncated]Turn around, don't drown when encountering flooded
roads.\r\n\t\t\tMost flood\r\n\t\t\tdeaths occur in vehicles.\r\n\r\n\t\t\tBe
especially cautious at night when it is harder to recognize
the\r\n\t\t\t dangers of flooding.\r\n
    </instruction>
<web>
    http://www.weather.gov
```

```
</web>
<parameter>
    <valueName>
        VTEC
    </valueName>
    <value>
        /O.NEW.KFWD.FF.W.0010.190502T0425Z-190502T0630Z/
    </value>
</parameter>
<parameter>
    <valueName>
        EAS-ORG
    </valueName>
    <value>
        WXR
    </value>
</parameter>
<parameter>
    <valueName>
        PIL
    </valueName>
    <value>
        FWDFFWFWD
    </value>
</parameter>
<parameter>
    <valueName>
        BLOCKCHANNEL
    </valueName>
    <value>
        EAS
    </value>
</parameter>
<parameter>
    <valueName>
        BLOCKCHANNEL
    </valueName>
    <value>
        NWEM
    </value>
</parameter>
<parameter>
    <valueName>
        WEAHandling
    </valueName>
    <value>
        Public Safety
    </value>
</parameter>
<parameter>
    <valueName>
        eventEndingTime
    </valueName>
    <value>
```

```
2019-05-02T01:30:00-05:00
    </value>
</parameter>
<parameter>
    <valueName>
        CMAMlongtext
    </valueName>
    <value>
        [truncated]National Weather Service: A FLASH FLOOD
WARNING is in effect\r\n\t\t\tfor this area until 1:30 AM CDT. This is a
dangerous and\r\n\t\t\tlife-threatening situation. Do not attempt to travel
unless you \r\n\t\t\tare fleein
    </value>
</parameter>
<parameter>
    <valueName>
        CMAMtext
    </valueName>
    <value>
        NWS: FLASH FLOOD WARNING this area til 1:30 AM CDT.
Avoid\r\n\t\t\tflooded areas.
    </value>
</parameter>
<area>
    <areaDesc>
        Loving, TX
    </areaDesc>
    <polygon>
        32.78,-97.7 32.79,-97.28 32.55,-97.29
32.56,-97.71\r\n\t\t32.78,-97.7
    </polygon>
    <geocode>
        <valueName>
            UGC
        </valueName>
        <value>
            TXC301
        </value>
    </geocode>
    <geocode>
        <valueName>
            SAME
        </valueName>
        <value>
            048301
        </value>
    </geocode>
    </area>
</info>
<info>
    <language>
        es-US
    </language>
</category>
```

```
    Met
    </category>
<event>
    Flash Flood Warning
    </event>
<responseType>
    Avoid
    </responseType>
<urgency>
    Immediate
    </urgency>
<severity>
    Severe
    </severity>
<certainty>
    Likely
    </certainty>
<eventCode>
    <valueName>
        SAME
        </valueName>
    <value>
        FFW
        </value>
    </eventCode>
<eventCode>
    <valueName>
        NationalWeatherService
        </valueName>
    <value>
        FFW
        </value>
    </eventCode>
<effective>
    2019-05-01T23:25:00-05:00
    </effective>
<onset>
    2019-05-01T23:25:00-05:00
    </onset>
<expires>
    2019-05-02T01:30:00-05:00
    </expires>
<senderName>
    NWS Fort Worth TX
    </senderName>
<headline>
    Flash Flood Warning issued May 1 at 11:25PM CDT until May
2\r\n\t\tat 1:30AM CDT by NWS Fort Worth TX
    </headline>
<description>
    [truncated]The National Weather Service in Fort Worth has
issued a\r\n\r\n\t\t* Flash Flood Warning for... \r\n\t\tTest County in
north central Texas... \r\n\t\t* Until 130 AM.\r\n\r\n\t\tAt 1125 PM
CDT, this is only a test!\\
```

```
        </description>
    <instruction>
        [truncated] Turn around, don't drown when encountering flooded
roads. Most flood\r\n\t\tdeaths occur in vehicles.\r\n\t\tdBe
especially cautious at night when it is harder to recognize
the\r\n\t\tdangers of flooding.\r\n\t\td
    </instruction>
<web>
    http://www.weather.gov
</web>
<parameter>
    <valueName>
        VTEC
    </valueName>
    <value>
        /O.NEW.KFWD.FF.W.0010.190502T0425Z-190502T0630Z/
    </value>
</parameter>
<parameter>
    <valueName>
        EAS-ORG
    </valueName>
    <value>
        WXR
    </value>
</parameter>
<parameter>
    <valueName>
        PIL
    </valueName>
    <value>
        FWDFFWFWD
    </value>
</parameter>
<parameter>
    <valueName>
        BLOCKCHANNEL
    </valueName>
    <value>
        EAS
    </value>
</parameter>
<parameter>
    <valueName>
        BLOCKCHANNEL
    </valueName>
    <value>
        NWEM
    </value>
</parameter>
<parameter>
    <valueName>
        WEAHandling
    </valueName>
```

```
<value>
    Public Safety
</value>
</parameter>
<parameter>
    <valueName>
        eventEndingTime
    </valueName>
    <value>
        2019-05-02T01:30:00-05:00
    </value>
</parameter>
<parameter>
    <valueName>
        CMAMlongtext
    </valueName>
    <value>
        [truncated] Servicio Nacional de Meteorologia: AVISO DE
INUNDACIONES\r\n\t\t\t\tREPENTINAS en efecto para esta area hasta las 1:30 AM
CDT. Esta es\r\n\t\t\t\tuna situacion peligrosa y amenaza la vida. No intente
viajar a \r\n\t\t\t\tmenos
    </value>
</parameter>
<parameter>
    <valueName>
        CMAtext
    </valueName>
    <value>
        SNM: AVISO DE INUNDACIONES REPENTINAS hasta 1:30 AM CDT.
Evite areas inundadas.
    </value>
</parameter>
<area>
    <areaDesc>
        Loving, TX
    </areaDesc>
    <polygon>
        32.78,-97.7 32.79,-97.28 32.55,-97.29
32.56,-97.71\r\n\t\t\t\t32.78,-97.7
    </polygon>
    <geocode>
        <valueName>
            UGC
        </valueName>
        <value>
            TXC301
        </value>
    </geocode>
    <geocode>
        <valueName>
            SAME
        </valueName>
        <value>
            048301
        </value>
    </geocode>

```

```
    </value>
  </geocode>
</area>
</info>
</alert>
```

Sample WEA Message - Tsunami Warning

NOTE: A 90 character WEA message is included in this example. Expanding to 360 character messages will not change the format displayed on wireless devices.

